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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/640,626

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Arra E. Avakian

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03/18/2008

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EXAMINER

PANTOLIANO JR, RICHARD

ART UNIT

PAPER NUMBER

2194

NOTIFICATION DATE

DELIVERY MODE

03/18/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/640,626	<b>Applicant(s)</b> AVAKIAN ET AL.	
	<b>Examiner</b> Richard Pantoliano Jr	<b>Art Unit</b> 2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2,4-9,11-16 and 18-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2, 4-9, 11-16, and 18-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

/William Thomson/  
SPE 2100

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office Action is responsive to amendments filed on **21 November 2007** in regard to Application# **10/640,626**. **Claims 2, 4-9, 11-16, and 18-25** are currently pending and have been considered below.

### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on **21 November 2007** has been entered.

### ***Response to Arguments***

3. Applicant's arguments filed **21 November 2007** have been fully considered but moot in view of the new grounds of rejection.

### ***Claim Objections***

4. **Claims 23-25** are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

5. As to **Claim 23**, this claim is dependent on cancelled **Claim 1**. It appears as though Applicant intended **Claim 23** to be dependent on independent **Claim 2**, and examiner will treat it as such until such time as Applicant corrects the deficiency.

6. As to **Claims 24 and 25**, these claims are dependent upon **Claim 23** and therefore suffer the same deficiencies as **Claim 23**.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 2, 6-9, 13-16, and 20-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Berry et al (US Pat: 6,662,359), hereinafter Berry, in view of Hunt et al (Hunt, et al. "Intercepting and Instrumenting COM Applications." 5th USENIX Conference on Object- Oriented Technologies and Systems. 1999.), hereinafter Hunt.

9. As to **Claim 2**, Berry discloses the invention substantially as claimed including a method for execution by at least one processor, the method comprising:

a) communicating with a first interface to identify classes and selecting at least one method of a class for instrumentation (Col. 5, lines 48 – 67) (Each class file is loaded and examined to determine if/where to insert performance instrumentation).

b) installing hooks in the selected at least one method with instrumentation tools, said instrumentation tools reading and writing the classes in order to produce modified classes (Col. 7, lines 1-10);

c) inserting instrumentation code in a byte code representation of the selected at least one method without modifying a source code of the selected at least one method, said hooks enabling said inserting of the instrumentation code (Col. 7, lines 11-35);

e) executing the byte codes during execution of the at least one method (Col. 13, lines 18-60); and

f) generating a call, by the executed byte codes, to a second interface wherein the call comprises information regarding the instrumented at least one method (Col. 13, lines 18-60).

10. While, as noted above, Berry teaches wherein the code within the system is written in byte code, Berry does not explicitly teach generating a wrapper method with said instrumentation tools that contain the instrumentation code.

11. Hunt explicitly teaches using utilities to generate wrappers that make a call to the code intended to be executed (pg. 9).

12. It would have been obvious to one of ordinary skill in the art at the time of invention would have modified the teachings of Berry with the teachings of Hunt. One would have been motivated by the need for improved software development by allowing

for "conformance testing, debugging, distributed communication, profiling, transaction management, serialization and locking, cross-standard middleware interoperability, automatic distributed partitioning, security enforcement, clustering and replication, just-in-time activation and transparent component aggregation" offered by using a wrapper to intercept calls to an object (Hunt: pg 2).

13. As to **Claim 6**, Berry further teaches wherein the selecting at least one method comprises selecting at least one method of a class for instrumentation when the class is being loaded by a java virtual machine (JVM) for execution by the JVM (Col. 5, lines 24-36).

14. As to **Claim 7**, Berry further teaches wherein the selecting at least one method comprises selecting at least one method of a class for instrumentation prior to execution of the class by a java virtual machine (JVM) (Col. 4, lines 41-47).

15. As to **Claim 8**, Berry further teaches wherein further comprising monitoring the at least one method using the information regarding the instrumented at least one method (Col. 10, lines 20-34).

16. As to **Claim 23**, Berry further teaches wherein the first interface is a HookControl interface (Col. 6, line 65 – Col. 7, line 10).

17. As to **Claim 24**, Berry further teaches wherein the second interface controls processing of the instrumentation code in the wrapper methods and enables monitoring tools that receive information when the modified classes are executed (Col. 13, lines 17 – 67).

18. As to **Claim 25**, Berry further teaches wherein the second interface is an ExecCallback interface and the instrumentation tools is at least one of a Bytecode Instrumentation Controller (BIC) and a Bytecode Instrumentation Program (BIP) (Col. 6, line 65 – Col. 7, line 10 and Col. 13, lines 17 – 67).

19. As to **Claims 9, 13-15**, these claims are directed to the system implementing the methods of **Claims 2, 6-8** respectively, and are therefore rejected for the same reasoning as **Claims 2, 6-8** as specified above.

20. As to **Claims 16, 20-22**, these claims are directed to the system implementing the methods of **Claims 2, 6-8** respectively, and are therefore rejected for the same reasoning as **Claims 2, 6-8** as specified above.

21. **Claims 4, 5, 11, 12, 18 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Berry in view of Hunt and in further view of Angel et al (US Pat: 6,314,558), hereinafter Angel.

22. As to **Claim 4**, while Berry in view of Hunt explicitly teach the steps of **Claim 3**, they fail to explicitly teach the claimed steps of generating the wrapper.

23. Angel explicitly teaches generating a wrapper method comprising:

a) renaming the at least one method from an original name to a new name (Col. 26, lines 14-31);

b) creating a wrapper method with the original name (Col. 3, lines 48-59 and Col. 26, lines 14-31) (Byte code with the name of the native version of the method is created and instrumented to allow access to the native method, thereby meeting this claim limitation);

c) inserting byte codes into the wrapper method that when executed generate the call to the interface (Col. 26, lines 14-31) (Byte code with the name of the native version of the method is created and instrumented to allow access to the native method, thereby meeting this claim limitation); and

d) inserting byte codes into the wrapper method that when executed call the renamed at least one method (Col. 26, lines 14-31).

24. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Berry and Hunt with the teachings of Angel. One of ordinary skill in the art would have been motivated to do so in order to avoid breaking any application dependent on the wrapped method (Hunt: pg. 9, paragraph 6). Making a replacement with the same name as the original method would ensure that any calls to that method would be intercepted to be processed in whatever manner the developer wishes to use.



25. As to **Claim 5**, Berry in view of Hunt and Angel further teaches wherein generating a wrapper method further comprises setting a flag of the renamed at least one method to private (Angel: Col. 26, lines 14-31) (The step of “adding the name as a private native method” meets this claim limitation).

26. As to **Claims 11 and 12**, being directed to a “system” implementing the method of **Claims 4 and 5**, respectively, these claims are rejected for the same reasoning as provided for **Claims 4 and 5**.

27. As to **Claims 18 and 19**, being directed to a “system” implementing the method of **Claims 4 and 5**, respectively, these claims are rejected for the same reasoning as provided for **Claims 4 and 5**.

### ***Conclusion***

28. The prior art made of record on the P.T.O. 892 that has not relied upon is considered pertinent to applicant's disclosure. Careful consideration of the cited art is required prior to responding to this Office Action, see 37 C.F.R. 1.111(c).

29. Examiner has cited particular columns and line numbers and/or figures in the references as applied to the claims for the convenience of the applicant. Applicant is respectfully reminded that rejections are based on references as a whole and not just

the cited passages. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is Applicant's responsibility to read and understand the reference, as a whole, before preparing a reply to this Office Action. Therefore, it is respectfully requested from Applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the cited art or disclosed by the examiner.

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Pantoliano, Jr. whose telephone number is (571)270-1049 and whose direct fax number is (571) 270-2049. The examiner can normally be reached on Monday-Thursday, 8am – 4pm EST. Please note that a request for an interview in regard to the present application should be accompanied by a written agenda (***including proposed amendments***, if available, and ***specific issues*** to be discussed) sent to the fax number cited above.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Thomson can be reached on (571)272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RP  
02/28/2008

/Thomson D. William/

Supervisory Patent Examiner, Art Unit 2194

Richard Pantoliano, Jr.  
Examiner  
Art Unit 2194